

# Transdiagnostic Approach to Anxiety Disorders: Common Factors and Integrative Interventions

## Anksiyete Bozukluklarına Tanılar Üstü Yaklaşım: Ortak Faktörler ve Bütüncül Müdahaleler

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### ABSTRACT

Anxiety disorders hold an important place in both clinical and research studies due to their prevalence and potential to negatively impact individuals' functioning and quality of life. Traditional diagnosis-based intervention approaches target symptoms specific to certain disorders; however, they have significant limitations, such as the prevalence of comorbidity and insufficient consideration of individual differences. Therefore, transdiagnostic approaches, which target cognitive and emotional processes that commonly occur across different disorders, offer a more comprehensive and flexible intervention opportunity. This review addresses the main transdiagnostic mechanisms involved in the onset, development, and maintenance of anxiety disorders, including comprehensively examining rumination, anxiety sensitivity, emotion regulation difficulties, behavioral avoidance, intolerance of uncertainty, perfectionism, cognitive flexibility, psychological flexibility, mindfulness, and self-compassion processes. In line with relevant literature findings, it is understood that the examined transdiagnostic processes are associated with multiple psychopathologies, play a central role in explaining comorbidity patterns, and can provide meaningful improvement in anxiety and accompanying symptoms when targeted for intervention.

**Keywords:** Transdiagnostic approaches, anxiety, anxiety disorders

### ÖZ

Anksiyete bozuklukları, yaygınlıkları ve bireylerin işlevselliği ile yaşam kalitesini olumsuz yönde etkileyebilme potansiyelleri nedeniyle hem klinik hem de araştırma çalışmalarında önemli bir yer tutmaktadır. Geleneksel tanı temelli müdahale yaklaşımları, belirli bozukluklara özgü semptomları hedef alırken; eşitanı yaygınlığı ve bireysel farklılıkların yeterince gözetilmemesi gibi önemli sınırlılıklar barındırmaktadır. Bu nedenle, farklı bozukluklarda ortak biçimde ortaya çıkan bilişsel ve duygusal süreçleri hedefleyen tanılar üstü yaklaşımlar, daha bütüncül ve esnek bir müdahale olanağı sunmaktadır. Bu derleme, anksiyete bozukluklarının ortaya çıkışını, gelişimi ve sürdürülmesinde rol oynayan başlıca tanılar üstü mekanizmaları ele almaktır; ruminasyon, anksiyete duyarlılığı, duyu düzenlemeye güçlüğü, davranışsal kaçınma, belirsizliğe tahammülsüzlük, mükemmeliyetçilik, bilişsel esneklik, psikolojik esneklik, bilişsel farklılıklar ve öz-şefkat süreçlerini kapsamlı bir biçimde incelemektedir. İlgili literatür bulguları doğrultusunda, incelenen tanılar üstü süreçlerin birden fazla psikopatolojiyle ilişkili olduğu, eş tanı örüntülerini açıklamada merkezi bir rol oynadığı ve müdahale hedefi haline geldiklerinde anksiyete ve eşlik eden belirtilerde anlamlı iyileşme sağlayabildikleri anlaşılmaktadır.

**Anahtar sözcükler:** Tanılar üstü yaklaşımlar, anksiyete, anksiyete bozuklukları

## Introduction

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Mental disorders are currently recognized as one of the leading contributors to the global burden of disease (Patel et al. 2018). According to Ipsos' 2024 World Mental Health Monitor, which surveyed approximately 24,000 individuals across 31 countries, respondents identified mental health problems as their most significant health concern, followed by cancer and stress. Anxiety disorders are also among the most prevalent mental health conditions in the general population (Kessler et al. 2005, Olatunji et al. 2007), and recent global assessments indicate that they are among the primary factors contributing to reductions in healthy life expectancy (World Health Organization [WHO] 2025).

WHO (2023) reports that everyone may experience anxiety at certain periods of their lives; however, in individuals with anxiety disorders, this condition is characterized by intense and severe fear accompanied by persistent feelings of worry. A meta-analysis indicated that anxiety disorders are highly associated with other mental health problems and that approximately 60% of individuals with anxiety disorders receive at least one comorbid diagnosis (Goldstein-Piekarski et al. 2016). Moreover, findings in the literature show that anxiety disorders frequently co-occur with various mental health conditions, particularly depression (Cuijpers et al. 2023), obsessive-compulsive disorder (OCD) (Sharma et al. 2021a, Sharma et al. 2021b), post-traumatic stress disorder (PTSD) (Van Minnen et al. 2015), and eating disorders (Bazo Perez et al. 2023). For example, individuals with anxiety disorders are three to five times more likely to experience depression compared to those without anxiety disorders (Meier et al. 2015). These findings indicate that anxiety disorders represent a significant risk factor not only at the individual level but also in terms of societal well-being (Racine et al. 2021).

In the treatment of anxiety disorders, the effectiveness of various evidence-based approaches—such as cognitive behavioral therapy (CBT), exposure-based interventions, acceptance and commitment therapy (ACT), metacognitive therapy (MCT), and mindfulness-based interventions—has been well established (Craske et al. 2008, Hofmann et al. 2012, Haller et al. 2021, Ferreira et al. 2022). However, many individuals do not seek psychological support, show resistance to treatment, or experience symptom relapses after treatment, pointing to the limitations of existing interventions (Bruce et al. 2008, Curry et al. 2011, Eisenberg et al. 2011). Although numerous evidence-based therapeutic approaches are available for reducing anxiety, most of these interventions address anxiety within their own theoretical frameworks. As a result, some cognitive, emotional, and behavioral processes may receive secondary attention in treatment (Roemer et al. 2013, Yadavaia et al. 2014, Landy et al. 2015, Harris and Samuel 2020). This situation makes it difficult to comprehensively address the common mechanisms involved in the development and maintenance of anxiety disorders. In particular, diagnosis- and symptom-focused interventions often conceptualize psychopathology within a categorical framework and focus on a limited number of processes, which may fail to adequately reflect clinical complexity and hinder the generalization of treatment gains across different contexts (Sauer-Zavala et al. 2017). In this context, transdiagnostic approaches that focus on common cognitive, emotional, and behavioral processes involved in the development and maintenance of anxiety disorders offer an important alternative for overcoming these limitations.

Within transdiagnostic approaches, individuals are evaluated in a more integrative manner by focusing on the common psychological mechanisms that underlie and maintain mental health problems, rather than on diagnostic categories alone (Barlow et al. 2011). By targeting common maintaining mechanisms, these approaches provide more flexible and functional intervention options, particularly in complex cases involving multiple diagnoses (Nolen-Hoeksema and Watkins 2011). In this context, the main aim of the present review is to examine anxiety disorders beyond diagnostic categories by focusing on transdiagnostic cognitive, emotional, and behavioral processes that operate across multiple disorders, and to synthesize the existing literature on these processes within a comprehensive framework. Accordingly, this review addresses key processes—such as rumination, intolerance of uncertainty, anxiety sensitivity, emotion regulation difficulties, behavioral avoidance, perfectionism, cognitive and psychological flexibility, mindfulness, and self-compassion—as modifiable targets in clinical interventions.

## Definition, Rationale, and Conceptual Framework of Transdiagnostic Approaches

The concept of transdiagnostic approaches, which cannot be reduced to a single meaning, is used at least at three levels: (1) an approach that targets common cognitive-emotional processes or core mechanisms across disorders (e.g., repetitive negative thinking, avoidance) (Mansell et al. 2009), (2) an approach that aims to manage comorbidity and heterogeneity at the clinical level by applying a single protocol to multiple diagnoses (Barlow et al. 2017), and (3) efforts to develop dimensional or higher-order factor-based classification systems instead of the categorical boundaries of the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th ed.; APA 2013) and the ICD (International Classification of Diseases; W 2026) (Insel et al. 2010, Kotov et al. 2017). However, it is also emphasized that the term transdiagnostic is used in different ways within the treatment development literature, making conceptual clarity particularly critical in this field (Sauer-Zavala et al. 2017).

Transdiagnostic preventive interventions that target common risk factors involved in the development of different psychopathologies have the potential to enhance the effectiveness of prevention and intervention efforts because they focus not on a single disorder but on cognitive and emotional processes that contribute to multiple psychological problems (Dozois et al. 2009). Indeed, promising results have been obtained in clinical practice from transdiagnostic intervention approaches that target the underlying causes and maintaining common factors of various mental health problems (Newby et al. 2015). For example, studies conducted with participants diagnosed with depression and/or anxiety have reported that transdiagnostic therapies produce statistically significant effects and that these effects remain stable at six-month follow-up assessments (Andersen et al. 2016, Carlucci et al. 2021). In addition, transdiagnostic cognitive behavioral therapy (TD-CBT) has been shown to significantly reduce depression and anxiety symptoms compared to control groups across individual, group, and internet-based formats, with effects maintained at 3, 6, and 12-month follow-ups (Måansson et al. 2023). Therefore, transdiagnostic models of psychopathology have been developed based on observations that traditional diagnostic classifications are insufficient to explain individual mental health problems and that symptoms associated with different diagnostic categories frequently overlap (Sandin et al. 2012).

On the other hand, the transdiagnostic approach provides a flexible conceptual framework that facilitates a better understanding of comorbidity patterns in psychopathology and allows consideration of common variables related to the development, maintenance, and treatment of disorders (Aldao 2012). For example, studies focusing on emotion regulation processes have shown that strategies such as rumination, avoidance, and suppression are strongly associated with depression and anxiety, whereas reappraisal and acceptance strategies show weaker but still significant associations (Aldao et al. 2010). Recent findings indicate that emotion regulation and rumination are key risk factors in these disorders and highlight the clinical relevance of transdiagnostic approaches. In addition, recent studies have strongly demonstrated the predictive role of transdiagnostic processes such as intolerance of uncertainty (McEvoy et al. 2019, Hunt et al. 2022), behavioral avoidance (Flores et al. 2018, 2020), emotion regulation difficulties (McEvoy and Mahoney 2012, Huang et al. 2019), and repetitive negative thinking (Yook et al. 2010) in anxiety, emphasizing that these processes also represent core cognitive risk factors for psychopathology (Cuijpers et al. 2023, Wilson et al. 2023).

However, despite evidence indicating that anxiety plays a role in the development of various psychopathologies, it has been noted that diagnosis-focused interventions typically target only a single problem and a single associated factor, which may lead to the neglect of other co-occurring problems and structural factors influencing psychopathology (Dalgleish et al. 2020). Moreover, this approach has been criticized due to difficulties arising from heterogeneity in how individuals experience disorders, reliability problems stemming from the multidimensional nature of diagnoses, and the challenges associated with requiring separate intervention protocols for each diagnosis (Newby 2015). Similarly, Hyman (2021) argued that, as supported by empirical evidence, mental health problems are too complex to be separated by rigid boundaries. In this context, the transdiagnostic concept represents a framework that captures the "core components" underlying mental health problems (Harvey et al. 2004).

## Literature Review

This review aims to examine transdiagnostic cognitive, emotional, and behavioral processes involved in the development and maintenance of anxiety disorders within a comprehensive framework. In this context, the literature search was conducted in the PsycINFO, PubMed, Web of Science, and Scopus databases using the keywords "transdiagnostic," "anxiety disorders," "emotion regulation," "anxiety sensitivity," "intolerance of uncertainty," "rumination," "avoidance," "cognitive flexibility," "psychological flexibility," "mindfulness," "self-compassion," and "meta-analysis." Accordingly, a wide range of sources published in Turkish and English between 2005 and 2025 were reviewed and included in the study, primarily consisting of randomized controlled experimental studies highlighting transdiagnostic components in anxiety disorders and meta-analyses incorporating these studies. The search was last updated in December 2025. Based on these criteria, a total of ten processes that are common across different psychopathologies, associated with symptom change when targeted in interventions, and play a central role in the maintenance of anxiety were included in this article. Studies that did not emphasize transdiagnostic processes and approaches or their causal relationships were excluded. The findings obtained were synthesized using a narrative synthesis approach.

## Common Transdiagnostic Components of Anxiety Disorders: Cognitive, Emotional, and Behavioral Processes

In transdiagnostic approaches, for a construct to be considered transdiagnostic, it is expected not only to emerge as a common risk or protective factor across various psychopathologies but also to produce improvement across multiple disorders when targeted in intervention (Mansell et al. 2009, Barlow et al. 2011). In this context, the transdiagnostic mechanisms addressed in the present study were selected based on the criteria that they are consistently associated with multiple psychopathologies, play an explanatory role in the onset and maintenance of anxiety, and demonstrate the potential to produce change across more than one symptom cluster when targeted in interventions, rather than being limited to a single diagnosis (Sauer-Zavala et al. 2017, Dalgleish et al. 2020).



**Figure 1. Cycle of common components in anxiety**

Accordingly, the processes were structured into three clusters: (1) emotional regulation/self-related regulatory processes (emotion regulation difficulties, mindfulness, self-compassion) – because emotion regulation strategies show broad associations with anxiety and other psychopathologies (Aldao et al. 2010); (2) threat- and control-focused cognitive vulnerability processes (anxiety sensitivity, intolerance of uncertainty, perfectionism) – because responses to uncertainty and threat appraisals are central to the anxiety cycle (Carleton 2016); and (3) maintenance processes (repetitive negative thinking/rumination-worry and avoidance/psychological rigidity) – because these may sustain emotional distress as recurring cognitive-behavioral patterns across different disorders, relatively independent of content (Ehring and Watkins 2008, Hayes et al. 2012).

In the subsequent subsections of this section, each mechanism is discussed first in terms of its definition and manifestation in anxiety, then in relation to its transdiagnostic evidence base and modifiability in interventions, and finally by summarizing how these three clusters converge within a common cycle that maintains anxiety and outlining their implications for comprehensive intervention (Sauer-Zavala et al. 2017, Dalgleish et al. 2020).

## **Emotion Regulation Difficulties**

Emotions are behavioral, cognitive, and physiological responses that individuals display in order to adapt to external stimuli from their environment (Gross 2014). A reduced ability to control the intensity and persistence of experienced emotions despite one's efforts, as well as difficulties in making sense of these emotions, is defined as emotion regulation difficulties (Gratz and Roemer 2004, Jazaieri et al. 2013). Studies have shown positive associations between emotion regulation difficulties and anxiety (Schäfer et al. 2017, Young et al. 2019), depression (Berking et al. 2014), and insomnia (Justyna and Zorana 2023). In this context, experimental studies indicate that interventions targeting emotion regulation contribute to reduced distress, improved sleep quality, and strengthened coping skills for managing anxiety (Mohammadi et al. 2023, Balideh et al. 2025, Liu et al. 2025). These findings in the literature suggest that emotion regulation difficulties represent a common influential factor across various psychopathologies and support the importance of addressing emotion regulation difficulties as a transdiagnostic intervention target.

## **Anxiety Sensitivity**

Anxiety sensitivity is defined as the tendency to perceive anxiety-related physical or cognitive sensations as dangerous and to fear these sensations (Reiss et al. 1986). This construct is structurally associated with various anxiety disorders, particularly panic disorder, post-traumatic stress disorder, generalized anxiety disorder, and social anxiety (Olatunji and Wolitzky-Taylor 2009). However, anxiety sensitivity is not limited to anxiety disorders and has also been found to be related to other psychopathologies such as depression, post-traumatic stress reactions, and agoraphobia (Naragon-Gainey 2010, Short et al. 2022, Zvolensky et al. 2022). Especially when considered together with other cognitive tendencies such as intolerance of uncertainty, this construct is thought to function as a common mechanism across different mental disorders and to constitute a transdiagnostic process (Poletti et al. 2015). Indeed, in diagnoses such as generalized anxiety disorder and social anxiety disorder, the cognitive and social subdimensions of anxiety sensitivity appear to be particularly prominent (Mantar et al. 2010). Finally, findings indicating that brief intervention programs can significantly reduce anxiety sensitivity suggest that this construct represents a modifiable and clinically important target for both preventive and therapeutic efforts (Fitzgerald et al. 2021).

## **Rumination**

Rumination has emerged as a common mechanism in the development and maintenance of depression (Olatunji et al. 2013), anxiety disorders (Watkins 2008), obsessive-compulsive disorder (Raines et al. 2017), and post-traumatic stress disorder (Moulds et al. 2020). According to Nolen-Hoeksema's (1991) Response Styles Theory, rumination is defined as a passive and repetitive thought process in response to

psychological distress. By directing individuals' attention to the symptoms, causes, and possible consequences of this distress, rumination increases the duration and intensity of negative affect and thereby contributes to the persistence of distressing mood states. In this sense, rumination stands out as a transdiagnostic construct closely associated with depression and anxiety disorders (Nolen-Hoeksema 1991, Watkins 2008, Lyubomirsky et al. 2015). In an internet-based experimental study conducted by Tulbure et al. (2025), rumination-focused CBT applied to individuals exhibiting high levels of rumination and anxiety symptoms was found to significantly reduce both rumination and anxiety symptoms. In addition, meta-analytic studies examining the effectiveness of metacognitive approaches on rumination have shown that metacognitive interventions are effective in reducing rumination and anxiety in both group and individual treatment formats (Normann et al. 2014, Normann and Morina 2018, Rochat et al. 2018).

## **Behavioral Avoidance**

Extensive research findings indicate that attempts to avoid or suppress emotions, thoughts, memories, and other private experiences in many psychopathologies can be conceptualized as behavioral avoidance (Hayes et al. 1996). In anxiety disorders, such maladaptive avoidance behaviors frequently occur and seriously disrupt daily functioning and impair the quality of life of affected individuals (Hayes et al. 2012, Abend 2023, McManus and Milad 2025). As also emphasized by Hayes (1996), many forms of psychopathology are associated with unhealthy avoidance strategies. In this context, behavioral avoidance represents a recurring common feature across many psychiatric conditions, particularly anxiety disorders (Urcelay 2024), as well as depression (Newman et al. 2023), post-traumatic stress disorder (Gros et al. 2023), and eating disorders (Melles and Jansen 2023). Research indicates that avoidance plays a central role in the development and maintenance of these disorders and functions as a common mechanism across diagnoses (Berg et al. 2025, Gerdan and Salcioglu 2025). Findings in the literature emphasize the importance of transdiagnostic interventions that focus on avoidance-based processes in anxiety disorders (Newman et al. 2023).

## **Intolerance of Uncertainty**

Intolerance of uncertainty can be defined as individuals' tendency to perceive uncertain situations as threatening (Buhr and Dugas 2002) and the activation of negative psychological reactions such as anxiety, worry, and fear in response to such situations (Sarı and Dağ 2009, Jacoby 2020, Miller and McGuire 2023, Wilson et al. 2023). In the literature, intolerance of uncertainty is regarded as a central cognitive risk factor, particularly in anxiety disorders, as it has been shown to intensify threat appraisals in uncertain situations, exacerbate anxiety responses, trigger avoidance behaviors, and contribute to the maintenance of anxiety by reinforcing cognitive distortions (McEvoy et al. 2019, Wake et al. 2021). The emergence of similar functional patterns of its cognitive, emotional, and behavioral components across different types of anxiety further increases its importance as a transdiagnostic target variable (Einstein 2014, Flores et al. 2018, 2020, Bottesi et al. 2020, Greifenberger et al. 2025). From this perspective, intolerance of uncertainty plays a fundamental role in the development and maintenance of many disorders and is considered an important treatment target. Indeed, studies indicate that transdiagnostic interventions lead to significant reductions in intolerance of uncertainty, accompanied by parallel decreases in anxiety symptoms (Boswell et al. 2013, Talkovsky and Norton 2016, Oglesby et al. 2017).

## **Perfectionism**

According to Frost et al. (1990), perfectionism is characterized by individuals' holding excessively high personal standards and engaging in harsh self-criticism. Findings in the literature indicate that perfectionism plays a significant role in the onset and maintenance of various psychopathologies, including eating disorders, anxiety disorders, and depression (Shafran and Mansell 2001). These findings are supported by meta-analyses showing that perfectionism, particularly its perfectionistic concern dimension, is moderately and positively associated with multiple psychopathologies such as depression, anxiety subtypes, and obsessive-compulsive disorder (Limburg et al. 2017, Smith et al. 2017, 2021, Lunn et al. 2023). In a study conducted by Egan et al. (2011), perfectionistic traits were found to be similarly

associated with psychopathology in both clinical and non-clinical samples, suggesting that perfectionism functions as a common and transdiagnostic process across different mental disorders rather than being specific to a single diagnosis. Moreover, the literature has shown that even perfectionistic strivings, which are sometimes presented as "healthy," are significantly associated—albeit at lower levels—with symptoms of depression, anxiety, and OCD (Limburg et al. 2017, Lunn et al. 2023).

## **Cognitive Flexibility**

Cognitive flexibility refers to individuals' ability to adapt their thought patterns to different environmental conditions, generate alternative solutions, shift their attentional focus, and modify their thinking processes (Uddin 2021, Hohl and Dolcos 2024). Individuals with low cognitive flexibility may become stuck in dysfunctional thoughts because they fail to recognize alternative solutions when facing problems, which may increase anxiety levels (Dağ and Gülüm 2013, Ari 2023). The literature indicates that as cognitive flexibility decreases, individuals tend to show higher levels of anxiety and depression (Warriner-Gallyer 2019, Tolan and Kara 2023, Altan-Atalay and Fatih-Boluvat 2024, Kara and Tolan 2025). In a study conducted with individuals diagnosed with generalized anxiety disorder, a mindfulness-based intervention was found to increase cognitive flexibility, and this increase was associated with reduced anxiety levels (Lee and Orsillo 2014).

## **Psychological Flexibility**

Psychological flexibility, which represents the core aim of ACT, is defined as individuals' ability to remain openly aware of their present-moment internal and external experiences and to direct their actions in accordance with their values (Harris 2022). ACT, which is also described as the third wave of behavioral therapy (Hayes et al. 2012), is based on Relational Frame Theory, which aims to explain how individuals establish contextual relationships among environmental stimuli and how thoughts influence behavior (Ramnerö and Törneke 2021). Accordingly, psychological flexibility is enhanced by targeting six core processes: contact with the present moment, cognitive defusion, acceptance, self-as-context, values, and committed action (Harris 2022). In contrast, the opposite of this six-process model represents psychological inflexibility. Psychological inflexibility consists of dominance of the past and future, cognitive fusion, experiential avoidance, attachment to the conceptualized self, rule-governed behavior, and inactivity/avoidance (Levin et al. 2012). In this regard, avoidance, as one of the components of psychological inflexibility, has been shown to be associated with anxiety symptoms (Bijulakshmi and Kumar 2025). Consistent with this, recent meta-analyses have demonstrated that psychological inflexibility is associated with increased anxiety (Lønfeldt et al. 2017, Wang et al. 2023, Yao et al. 2023). According to this approach, which explains psychopathology in terms of psychological inflexibility rather than diagnostic labels, enhancing psychological flexibility is closely related to mental health; therefore, this construct offers a transdiagnostic framework (Levin et al. 2014). Through this approach, individuals are supported in increasing their psychological flexibility, becoming aware of anxiety as it is, making space for it rather than avoiding or trying to control it, and moving forward in a values-based direction alongside anxiety (Dindo et al. 2017).

## **Mindfulness**

Mindfulness refers to individuals' ability to relate to the "here and now" without judgment (Germer 2004). In other words, mindfulness involves focusing attention on the present moment and experiencing it as it unfolds, whereas inattention or mind-wandering reflects states in which this awareness is relatively absent (Deniz et al. 2017). In this context, continuing one's actions without awareness is referred to as "autopilot" and represents an experience that is the opposite of mindfulness (Aktepe and Tolan 2020). Moreover, as individuals' levels of awareness decrease, their automatic tendencies to avoid or suppress emotions that arise in response to their thoughts lead these thoughts to become more repetitive and distressing emotions to intensify (Grabovac et al. 2011). This nonjudgmental and detached stance toward internal experiences such as emotions, thoughts, and bodily sensations is associated with psychological well-being (Lønfeldt et al. 2017). In addition to anxiety, mindfulness has been shown to be effective in

various mental health problems such as depression, post-traumatic stress disorder, and schizophrenia, and by targeting common processes independent of diagnosis, it represents a transdiagnostic component (Boettcher et al. 2014, Kladnitski et al. 2020, Taylor et al. 2020, Bergmann et al. 2021, Alkan et al. 2025). However, research indicates that higher levels of mindfulness are associated with lower anxiety (Dillard and Meier 2021), that mindfulness-based interventions are effective in the short and medium term but tend to lose effectiveness in the long term (Ren et al. 2018, Oberoi et al. 2020), and that no significant differences are found in group comparisons (Williams et al. 2024). Therefore, although mindfulness plays a meaningful role in anxiety, it appears that it is not sufficient on its own.

## **Self-Compassion**

Self-compassion refers to individuals' ability to respond to themselves with understanding in the face of negative experiences such as inadequacy or failure and during moments of suffering, and to accept these experiences as part of the human condition (Neff 2021). In addition, self-compassion involves a sincere willingness to be kind to oneself without avoiding painful experiences or attempting to suppress distress (Deniz and Gündüz 2021). Studies indicate that lower levels of self-compassion are associated with higher levels of anxiety (Bates et al. 2021, Gao et al. 2023). Bommarito et al. (2024) reported that individuals with anxiety and various mental health problems have lower levels of self-compassion compared to control groups, and that interventions aimed at enhancing self-compassion may be effective in reducing both anxiety and other mental health problems. Meta-analytic findings show that self-compassion is negatively associated with anxiety symptoms and that higher levels of self-compassion are linked to lower anxiety (Kirby et al. 2017, Luo et al. 2023). In contrast, meta-analyses of interventions designed to increase self-compassion indicate that, when compared with active control groups, their effects on anxiety are not consistently significant (Ferrari et al. 2019, Han and Kim 2023, Wilson et al. 2023).

In summary, when considered as intervention targets, many different components have been shown to be effective in reducing anxiety. In this context, experimental studies and meta-analyses focusing on emotion regulation difficulties (Liu et al. 2025), anxiety sensitivity (Fitzgerald et al. 2021), rumination (Tulbure et al. 2025), behavioral avoidance (Moonen et al. 2021), intolerance of uncertainty (McEvoy et al. 2019), perfectionism (Egan et al. 2011), cognitive flexibility (Lee and Orsillo 2014), psychological flexibility (Yao et al. 2023), mindfulness (Ren et al. 2018, Oberoi et al. 2020), and self-compassion (Luo et al. 2023) indicate that interventions targeting these components are effective in reducing anxiety. It has also been reported that intervention processes focusing on these components employ techniques such as cognitive reframing, defusion, acceptance- and mindfulness-based practices, exposure, relaxation exercises, psychoeducation, imagery, homework assignments, and anxiety monitoring, and that these techniques contribute to reductions in anxiety levels by strengthening coping skills (Egan et al. 2011, Lee and Orsillo 2014, Ren et al. 2018, Oberoi et al. 2020, Fitzgerald et al. 2021, Moonen et al. 2021, Luo et al. 2023, Yao et al. 2023, Liu et al. 2025, Tulbure et al. 2025). However, in order to determine which components play a stronger and more central role in reducing anxiety, there is a need for network analysis-based research methods that examine intervariable relationships simultaneously.

## **Structure and Stages of the Transdiagnostic Intervention Process**

From an intervention perspective, transdiagnostic approaches offer a comprehensive process that begins with assessment and diagnostic evaluation and continues with the development of emotion regulation skills, supported by cognitive restructuring and behavioral interventions. By integrating learned strategies into daily life, psychological interventions are implemented flexibly according to individual needs, and their effectiveness is reinforced through regular follow-ups (Carlucci et al. 2021). Within the scope of interventions, emotion regulation skills are developed to facilitate the management of emotional responses (Newby et al. 2016); negative thought patterns are replaced with more functional alternatives through cognitive restructuring (Carlucci et al. 2021); and behavioral techniques (e.g., exposure, problem solving) are used to support functioning and life skills (Newby et al. 2016). Finally, learned strategies are integrated into daily life, and interventions are adapted through regular follow-ups (Newby et al. 2016, Carlucci et al. 2021).

## Current Transdiagnostic Protocols and Clinical Effectiveness

To date, the effectiveness of various psychotherapeutic approaches in reducing anxiety has been examined in numerous studies. These approaches include CBT, third-wave CBT, and relaxation-based interventions (Papola et al. 2024). Among these, third-wave therapies, which are grounded in the foundations of CBT, focus on enhancing individuals' awareness, promoting acceptance without directly modifying cognitions, and expanding behavioral repertoires without relying on diagnostic labels (Kul and Türk 2020). In addition, MCT, which is considered part of third-wave approaches despite certain distinctions from traditional CBT, aims to transform individuals' responses to their thought processes rather than the content of their thoughts (Normann et al. 2014, Moritz et al. 2019).

One of the earliest transdiagnostic intervention programs, the Unified Protocol, was developed by Barlow et al. (2011). This program was designed in response to diagnosis-specific intervention approaches that were considered insufficient in real-world settings and challenging for practitioners, and it is based on a protocol that targets common transdiagnostic components (Erarslan İnceç and Yorulmaz 2021). The proposed intervention program consists of five core modules and three additional modules, typically delivered across 12–18 sessions (Barlow et al. 2011). Across these eight modules, the process sequentially includes maintaining motivation and goal setting, psychoeducation about the nature of emotions, nonjudgmental awareness of emotions, enhancing cognitive flexibility, modifying emotion-driven behaviors, increasing tolerance for bodily sensations accompanying emotions, conducting exposure exercises to situations that evoke intense emotions, and finally, relapse prevention planning aimed at maintaining progress (Barlow et al. 2011, 2017). The effectiveness of this comprehensive program has been tested multiple times, and according to a meta-analysis, it has demonstrated a substantial effect on improving anxiety levels (Sakiris and Berle 2019).

Another transdiagnostic cognitive behavioral intervention program developed for anxiety disorders was prepared by Norton and Hope (2005). This approach consists of a 12-session group intervention protocol, with each session lasting two hours. The first session addresses behavioral avoidance; the second focuses on cognitive restructuring; the third includes psychoeducation and alternative thoughts; the fourth through ninth sessions involve exposure and response prevention; the tenth and eleventh sessions examine restructured cognitions related to negative affect; and the twelfth session is devoted to relapse prevention and termination (Norton and Philipp 2008). This protocol represents a structured intervention that directly targets anxiety and is grounded in the classical CBT approach (Norton and Philipp 2008). In a 12-week experimental study comparing CBT and transdiagnostic CBT, no significant differences were reported between the groups in terms of intervention effectiveness. Over the course of the 12 sessions, the treatment addressed psychoeducation about anxiety, identification of automatic thoughts and cognitive restructuring, exposure, advanced cognitive restructuring, termination, and the development of post-intervention action plans (Norton and Barrera 2012). However, in this approach as well, the sessions were conducted within a traditional CBT framework, and it appears that many important components involved in the emergence of anxiety were overlooked.

In another randomized controlled study targeting disorders characterized by emotion regulation difficulties, a brief transdiagnostic group intervention protocol was implemented. The intervention was reported to be effective in reducing symptoms related to anxiety, panic disorder, depression, and somatization, as well as in influencing emotion regulation strategies and cognitive processes such as cognitive restructuring, rumination, worry, and suppression. Specifically, the eight-week intervention, which included motivation for change, psychoeducation about emotions, emotional awareness training, cognitive restructuring, modification of avoidance behaviors, increasing tolerance for bodily sensations, emotional exposure, and relapse prevention, represented a brief adaptation of a unified protocol. Compared to the control condition included in the study, this intervention was found to produce stronger improvements in several outcome variables (Corpas et al. 2022).

In another study examining the effectiveness of the unified protocol developed by Barlow et al. (2011) in both individual and group interventions, a nine-module psychoeducation program was implemented for disorders characterized by emotion regulation difficulties. These modules included goal setting and

motivation enhancement, understanding emotions, mindfulness, understanding thoughts, understanding emotional behaviors, understanding bodily sensations, applying learned skills, recognizing gains, and progress (Barlow et al. 2011). Accordingly, both individual and group interventions were found to be effective in reducing levels of depression and anxiety, and no significant differences were reported between the two formats (Paul et al. 2024). Similarly, findings from a study conducted with 18 participants across five modules indicated that the individual application of a transdiagnostic unified intervention was also effective in reducing symptoms of depression and anxiety (Farchione et al. 2012). In addition, a meta-analysis examining the effectiveness of transdiagnostic approaches in individual interventions found that individual treatment was effective in reducing anxiety and that there were no significant differences compared to group interventions (Carlucci et al. 2021). Therefore, transdiagnostic approaches can be considered effective and promising in both group-based and individual intervention formats.

In Türkiye, the first experimental study on transdiagnostic intervention approaches appears to have been conducted by Erarslan İnceç (2021). In this study, the protocol developed by Barlow et al. (2011) was implemented, and the effectiveness of the intervention was evaluated based on participants' levels of psychological well-being, revealing a statistically significant difference. In addition, Özdel and Türkçapar (2025) proposed a "Three-Dimensional Transdiagnostic Approach," which targets cognitive, behavioral, and attentional dimensions by strengthening CBT with contemporary therapies, and emphasized the need for its empirical testing. The proposal to integrate existing cognitive behavioral and contemporary approaches is considered important. In this regard, a meta-analysis comparing the effectiveness of traditional CBT and transdiagnostic CBT in reducing anxiety found that both approaches were equivalent in terms of short- and long-term outcomes and, moreover, that the effectiveness of transdiagnostic CBT did not decrease among individuals with multiple comorbid diagnoses in addition to anxiety (Pearl and Norton 2017). From this perspective, with their flexible and comprehensive intervention opportunities, transdiagnostic approaches offer an innovative framework capable of addressing the multidimensional nature of anxiety disorders. However, a review of the literature indicates that most developed protocols are largely based on traditional CBT, which suggests that some fundamental psychological components may be overlooked in interventions.

## **Discussion**

This review integrates transdiagnostic cognitive, emotional, and behavioral processes involved in the development and maintenance of anxiety disorders within a comprehensive framework, demonstrating that intervention targets can be structured around clusters of common mechanisms rather than diagnostic labels. In particular, processes such as avoidance and safety behaviors, threat appraisal, intolerance of uncertainty, and repetitive negative thinking form a common cycle that maintains anxiety despite symptom heterogeneity, whereas regulatory processes such as emotion regulation difficulties, psychological flexibility, mindfulness, and self-compassion influence the intensity and generalizability of this cycle. Indeed, evidence indicating that transdiagnostic psychotherapies are effective in reducing depressive and anxiety symptoms in the short term has increased markedly in recent years (Argus and Thompson 2008, Cuijpers et al. 2023).

The transdiagnostic approach aims to develop intervention protocols targeting these mechanisms by focusing on factors commonly observed across mental disorders. Considering the wide range of intervention approaches that have been scientifically shown to be effective in reducing anxiety, increasing importance is being placed on the development of evidence-based transdiagnostic intervention programs that integrate the strengths of these approaches, adopt a novel perspective, and demonstrate high practical applicability (Newby et al. 2015, Norcross et al. 2022).

Anxiety disorders often begin with symptoms that remain below the clinical diagnostic threshold, and these subthreshold patterns may be associated with functional impairment and an increased risk of developing diagnosable disorders in the future (Rai et al. 2010, Karsten et al. 2013, Zhong et al. 2024). Indeed, longitudinal evidence indicates that subthreshold symptoms can predict the later onset of anxiety and depressive disorders (Karsten et al. 2011). For this reason, interventions targeting transdiagnostic

mechanisms have significant potential not only for treatment but also for prevention among individuals whose symptom levels have not yet reached diagnostic thresholds (O'Connell et al. 2009). In addition, studies have shown that Unified Protocol-based transdiagnostic prevention programs for adolescents can be structured to reduce the risk of anxiety and depression (Korte 2020, Mohammadi et al. 2023). More recent evidence further suggests that transdiagnostic prevention approaches represent a rapidly growing area of research in youth populations and that both face-to-face and digital prevention programs may reduce symptoms and/or the onset of disorders in at-risk groups (DeTore et al. 2025, Kalon et al. 2025).

On the other hand, although transdiagnostic processes are "common," the specific combinations and intensity levels with which these processes manifest in individuals showing subthreshold anxiety symptoms are critical for clinical decision-making and secondary prevention. The literature indicates that, in some individuals, cognitive processes such as intolerance of uncertainty and repetitive negative thinking (particularly worry and rumination) may form a more prominent pathway in maintaining anxiety, whereas in others, the axis of threat appraisal and avoidance-safety behaviors may be more dominant (Salkovskis 1991, Rapee and Heimberg 1997, Buhr and Dugas 2002, Ehring and Watkins 2008). In addition, person-centered approaches and findings from network analyses suggest that the relative weight and centrality of these processes may vary across individuals and samples (Borsboom and Cramer 2013, Robinaugh et al. 2019, Cai et al. 2024, Iannattone et al. 2024). Therefore, while person-centered approaches help classify individuals' process profiles, multivariate models such as network analysis can map reciprocal connections among processes and identify which nodes are more central or serve as bridges between disorder clusters (Borsboom and Cramer 2013, McNally 2016, Robinaugh et al. 2019). Indeed, studies examining the network structure of transdiagnostic dimensions among adolescents with subthreshold emotional symptoms indicate that, even at subclinical levels, the organization of processes and their mutually reinforcing connections can provide clinically meaningful information (Ródenas-Perea et al. 2025). In this context, the findings presented in this review may serve as guidance for the development of culturally sensitive, feasible, and multicomponent intervention programs. However, the present study also has certain limitations.

This review is a narrative synthesis rather than a systematic review or meta-analysis conducted in accordance with established protocols such as PRISMA. Therefore, potential publication bias and selection bias resulting from the authors' familiarity with the field may not have been fully eliminated during the study selection process. This also constitutes an additional limitation due to possible language bias and the exclusion of non-indexed studies. Moreover, a substantial proportion of the studies included in this review are based on samples drawn from Western countries, primarily consisting of university students or volunteer community populations. This limits the generalizability of the findings to groups with higher levels of clinical severity as well as to disadvantaged populations. Accordingly, longitudinal and experimental studies conducted with Turkish samples are needed to support the development of local psychoeducational and intervention programs. On the other hand, the future research directions proposed within the scope of the present study are expected to contribute to the literature.

In clinical practice, it is recommended that routine assessment and case formulation include processes such as emotion regulation difficulties, anxiety sensitivity, rumination, behavioral avoidance, intolerance of uncertainty, perfectionism, cognitive flexibility, psychological flexibility, mindfulness, and self-compassion, rather than focusing solely on diagnostic criteria such as those outlined in the DSM or ICD. In this framework, the use of structured interviews and self-report measures that simultaneously address multicomponent transdiagnostic processes during assessment may contribute to clearer identification of intervention targets. In intervention planning, focusing on clusters of common processes rather than on specific diagnostic labels that maintain anxiety may enable a more integrative approach to comorbid cases and facilitate the simplification of intervention protocols. Accordingly, the broader implementation of process-based approaches such as the Unified Protocol, MCT, and ACT in primary and secondary mental health services, supported by culturally adapted psychoeducational materials and modular programs, has the potential to provide accessible and cost-effective intervention options for anxiety-related problems. This framework, which emphasizes transdiagnostic processes, is important not only for clinical practice but also for training in clinical psychology and psychological counseling. Teaching case formulation

primarily through diagnostic categories may limit students' ability to recognize common processes and link them to intervention targets. Therefore, it is recommended that training programs place greater emphasis on process-based case formulations, case discussions conducted using transdiagnostic protocols, and supervised practices that demonstrate transitions across intervention modules.

To strengthen the evidence in this field at the mechanism level, future studies should examine transdiagnostic processes not merely as variables associated with anxiety, but as mechanisms of change that, when altered during treatment, lead to changes in symptoms. For this reason, in randomized controlled trials it is recommended that not only symptom outcomes (e.g., anxiety severity) but also target processes such as intolerance of uncertainty, repetitive negative thinking (worry/rumination), avoidance, safety behaviors, and anxiety sensitivity be assessed at multiple time points throughout treatment. This would allow testing the question of whether the process changes first and symptom reduction follows, thereby better satisfying key criteria such as temporal precedence, which is critical for approaching causal inference in mediation analyses (Kazdin 2007, Lemmens et al. 2016). In addition, to address the question of which module is more effective for which subgroup, examining moderator effects based on baseline process levels (e.g., prioritizing cognitive process-focused modules when intolerance of uncertainty and repetitive thinking are high; prioritizing exposure and avoidance-reduction modules when avoidance and safety behaviors are high) may support both the personalization of modular approaches and the more efficient use of resources. Indeed, in primary care samples with emotional disorders, processes such as worry and rumination have been shown to influence treatment response (Barrio-Martínez et al. 2023). In conclusion, studies that combine mediation and moderator analyses will make it possible to generate more precise and clinically informative conclusions regarding under which conditions, for whom, and through which processes transdiagnostic protocols are effective (Venturo-Conerly and Ehrenreich-May 2023).

Although transdiagnostic protocols provide a strong evidence base, cultural context may influence the ways in which anxiety is expressed (e.g., greater visibility of somatic complaints) and how clinical presentations are interpreted (Hofmann and Hinton 2014, Lewis-Fernández et al. 2017). In addition, culture may facilitate the maintenance of avoidance and safety behaviors through interpersonal patterns that can reinforce these processes (e.g., norms of parental control and overprotection within the family) (Kağıtçıbaşı 2005, McLeod et al. 2007). Furthermore, because help-seeking attitudes and the acceptability of interventions may vary in culturally sensitive ways, approaches emphasizing cultural adaptation rather than direct transfer of protocols have become increasingly important (Seyfi et al. 2013, Acartürk et al. 2019, Salamanca-Sanabria et al. 2019). For this reason, in the Turkish context, it is important that existing transdiagnostic protocols be adapted and redesigned in line with cultural norms and local needs in terms of content, examples, delivery format, and target behaviors, rather than being directly transferred. Indeed, the literature on culturally sensitive adaptation emphasizes that such modifications in CBT and transdiagnostic interventions can enhance acceptability and accessibility, and studies conducted with adolescent samples in Türkiye have reported promising findings regarding the feasibility and acceptability of culturally adapted transdiagnostic CBT (Salamanca-Sanabria et al. 2018, Acartürk et al. 2019). In this framework, while process targets (e.g., intolerance of uncertainty, avoidance/safety behaviors, repetitive negative thinking) may be preserved at a universal level, practical examples and intervention components can be adapted to cultural dynamics. For example, in family systems characterized by strong norms of protectiveness and enmeshment in close relationships, excessive control and overprotective behaviors that emerge with supportive intentions may facilitate children's avoidance of challenging situations and thereby reinforce avoidance and safety behaviors. This pattern is consistent with meta-analytic findings demonstrating associations between parental control and child anxiety (Kağıtçıbaşı 2005, Van der Bruggen et al. 2008). Therefore, experimental studies to be conducted in Türkiye should examine the effectiveness of culturally adapted modular transdiagnostic programs and identify which process targets (e.g., avoidance, intolerance of uncertainty, repetitive negative thinking) are particularly salient within the cultural context, thereby making an original contribution to the literature.

From an implementation perspective, the fact that a transdiagnostic protocol is found to be effective under research conditions does not mean that it will automatically produce the same effects in routine services. To achieve similar outcomes under routine conditions, the program needs to be delivered with

sufficient dosage (number and length of sessions), fidelity to core components (protocol adherence), practitioner competence supported through training and regular supervision, and integration into the existing functioning of institutions such as schools and clinics (Durlak and DuPre 2008, Durlak 2011, Proctor et al. 2011). Therefore, dissemination efforts should include not only initial training but also structured supports such as skill-based follow-up and ongoing supervision (Durlak and DuPre 2008, Proctor et al. 2011). The use of frameworks such as FRAME to systematically report implementation changes (e.g., how and why homework assignments, metaphors, or family components are adapted) facilitates monitoring both the acceptability of adaptations and their relationship to outcomes (Wiltsey Stirman et al. 2019). Finally, to increase accessibility and strengthen early intervention, the integration of transdiagnostic modular content into school mental health services and primary healthcare systems is important (Owens et al. 2014, Weisberg and Magidson 2014). In school settings, key requirements for effective implementation include practitioner training, monitoring fidelity to the protocol, and ensuring system-level institutional support (Owens et al. 2014). In primary healthcare systems, the wider use of psychological interventions can be facilitated through integrated models in which psychological and medical services are delivered within the same system, supported by brief and feasible protocols (Weisberg and Magidson 2014).

## Conclusion

This study classified ten transdiagnostic processes associated with anxiety disorders across cognitive, emotional, and behavioral levels. The existing literature indicates that, particularly in models focusing on common processes in psychopathology, jointly addressing attention/awareness, cognitive appraisal, and behavioral strategies can contribute to a better understanding of anxiety-related problems and to the development of more effective interventions. Therefore, conducting longitudinal and experimental studies centered on these components is of particular importance. In this context, it is recommended that future practices incorporate the common components examined in this study into case formulations, target the mechanisms that maintain anxiety rather than diagnostic labels, and monitor changes not only in anxiety symptoms but also in co-occurring symptoms using standardized assessment tools throughout the intervention process. In this way, it will be possible to examine through empirical studies whether these components function similarly across different problems and to evaluate the feasibility and effectiveness of such practices within the Turkish cultural context. This is expected to contribute to the development of a common transdiagnostic intervention program. Within this framework, the findings presented in this review may serve as a guide for developing culturally sensitive, feasible, and multicomponent intervention programs.

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